CLAIMS:

1. A method for inhibiting bacterial colonisation of mucous epithelium in a biological system, the method including the step of administering to the biological system an effective amount of a mucolytic agent and one or more of colostrum, hyperimmune milk, or a component of colostrum and/or hyperimmune milk that is capable of inhibiting bacterial colonisation in combination with the mucolytic agent.

2. A method according to claim 1, wherein the inhibition of bacterial colonisation occurs in the gastrointestinal tract.

3. A method according to claim 2, wherein the bacterial colonisation is colonisation by a *Helicobacter* species.

4. A method according to claim 3, wherein the *Helicobacter* species is *Helicobacter pylori*.

5. A method according to any one of claims 1 to 4, wherein the mucolytic agent is N-acetyl cysteine.

6. A method according to any one of claims 1 to 5, wherein the colostrum, hyperimmune milk, or a component of colostrum and/or hyperimmune milk are bovine colostrum, bovine hyperimmune milk, or a component of bovine colostrum and/or bovine hyperimmune milk.

7. A method according to any one of claims 1 to 6, wherein the colostrum is hyperimmune colostrum.

8. A method according to any one of claims 1 to 6, wherein the component of colostrum and/or hyperimmune milk is lactoferrin.

9. A method according to claim 8, wherein the lactoferrin is hydrolysed lactoferrin.

10. A method according to any one of claims 1 to 6, wherein the component of colostrum and/or hyperimmune milk is one or more specific or cross-reactive antibodies to the bacteria colonising the mucous epithelium.

11. A method according to any one of claims 1 to 10, wherein the method further includes the administration of an antibiotic.

12. A method according to claim 11, wherein the antibiotic is amoxycillin.

13. A method according to any one of claims 1 to 12, wherein the biological system is a human or animal.

14. A method for reducing bacterial infection of mucous epithelium in a biological system, the method including the step of administering to the biological system an effective amount of a mucolytic agent and one or more of colostrum, hyperimmune milk, or a component of colostrum and/or hyperimmune milk that is capable of reducing bacterial infection in combination with the mucolytic agent.

15. A method according to claim 14, wherein the reduction of bacterial infection occurs in the gastrointestinal tract.

16. A method according to claim 15, wherein the bacterial infection is infection by a *Helicobacter* species.

17. A method according to claim 16, wherein the *Helicobacter* species is *Helicobacter pylori*.

18. A method according to any one of claims 14 to 17, wherein the mucolytic agent is N-acetyl cysteine.

19. A method according to any one of claims 14 to 18, wherein the colostrum, hyperimmune milk, or a component of colostrum and/or hyperimmune milk are bovine colostrum, bovine hyperimmune milk, or a component of bovine colostrum and/or bovine hyperimmune milk.

20. A method according to any one of claims 14 to 19, wherein the colostrum is hyperimmune colostrum.

21. A method according to any one of claims 14 to 19, wherein the component of colostrum and/or hyperimmune milk is lactoferrin.

22. A method according to claim 21, wherein the lactoferrin is hydrolysed lactoferrin.

23. A method according to any one of claims 14 to 19, wherein the component of colostrum and/or hyperimmune milk is one or more specific or cross-reactive antibodies to the bacteria infecting the mucous epithelium.

24. A method according to any one of claims 14 to 23, wherein the method further includes the administration of an antibiotic.

25. A method according to claim 24, wherein the antibiotic is amoxycillin.

26. A method according to any one of claims 14 to 25, wherein the biological system is a human or animal.

27. A method for reducing damage to mucous epithelium associated with bacterial infection of the mucous epithelium in a biological system, the method including the step of administering to the biological system an effective amount of a mucolytic agent and one or more of colostrum, hyperimmune milk, or a component of colostrum and/or hyperimmune milk that is capable of reducing bacterial infection in combination with the mucolytic agent.

28. A method according to claim 27, wherein the damage occurs in the gastrointestinal tract.

29. A method according to claim 28, wherein the bacterial infection is infection by a *Helicobacter* species.

30. A method according to claim 29, wherein the *Helicobacter* species is *Helicobacter pylori*.

31. A method according to any one of claims 27 to 30, wherein the mucolytic agent is N-acetyl cysteine.

32. A method according to any one of claims 27 to 31, wherein the colostrum, hyperimmune milk, or a component of colostrum and/or hyperimmune milk are bovine colostrum, bovine hyperimmune milk, or a component of bovine colostrum and/or bovine hyperimmune milk.

33. A method according to any one of claims 27 to 32, wherein the colostrum is hyperimmune colostrum.

34. A method according to any one of claims 27 to 32, wherein the component of colostrum and/or hyperimmune milk is lactoferrin.

35. A method according to claim 34, wherein the lactoferrin is hydrolysed lactoferrin.

36. A method according to any one of claims 27 to 32, wherein the component of colostrum and/or hyperimmune milk is one or more specific or cross-reactive antibodies to the bacteria infecting the mucous epithelium.

37. A method according to any one of claims 27 to 36, wherein the method further includes the administration of an antibiotic.

38. A method according to claim 37, wherein the antibiotic is amoxycillin.

39. A method according to any one of claims 27 to 38, wherein the biological system is a human or animal.

40. A method for treating a disease or condition associated with bacterial infection of mucous epithelium in a subject, the method including the step of administering to the subject an effective amount of a mucolytic agent and one or more of colostrum, hyperimmune milk, or a component of colostrum and/or hyperimmune milk that is capable of treating the disease or condition associated with bacterial infection of mucous epithelium in combination with the mucolytic agent.

41. A method according to claim 40, wherein the disease or condition is a disease or condition associated with bacterial infection of the gastrointestinal tract.

42. A method according to claim 41, wherein the disease or condition is gastric inflammation, an ulcer of the stomach or duodenum, non-ulcer dyspepsia, or a gastric condition associated with leukocyte infiltration.

43. A method according to any one of claims 40 to 42, wherein the bacterial infection is infection by a *Helicobacter* species.

44. A method according to claim 43, wherein the *Helicobacter* species is *Helicobacter pylori*.

45. A method according to any one of claims 40 to 44, wherein the mucolytic agent is N-acetyl cysteine.

46. A method according to any one of claims 40 to 45, wherein the colostrum, hyperimmune milk, or a component of colostrum and/or

hyperimmune milk are bovine colostrum, bovine hyperimmune milk, or a component of bovine colostrum and/or bovine hyperimmune milk .

47. A method according to any one of claims 40 to 46, wherein the colostrum is hyperimmune colostrum.

48. A method according to any one of claims 40 to 46, wherein the component of colostrum and/or hyperimmune milk is lactoferrin.

49. A method according to claim 48, wherein the lactoferrin is hydrolysed lactoferrin.

50. A method according to any one of claims 40 to 46, wherein the component of colostrum and/or hyperimmune milk is one or more specific or cross-reactive antibodies to the bacteria infecting the mucous epithelium.

51. A method according to any one of claims 40 to 50, wherein the method further includes the administration of an antibiotic.

52. A method according to claim 51, wherein the antibiotic is amoxycillin.

53. A method according to any one of claims 27 to 38, wherein the subject is a human or animal.

54. A composition including a mucolytic agent and one or more of colostrum, hyperimmune milk, or a component of colostrum and/or hyperimmune milk.

55. A composition according to claim 54, wherein the mucolytic agent is N-acetyl cysteine.

56. A composition according to claims 54 or 55, wherein the colostrum, hyperimmune milk, or a component of colostrum and/or hyperimmune milk are

bovine colostrum, bovine hyperimmune milk, or a component of bovine colostrum and/or bovine hyperimmune milk .

57. A composition according to any one of claims 54 to 56, wherein the colostrum is hyperimmune colostrum.

58. A composition according to any one of claims 54 to 56, wherein the component of colostrum and/or hyperimmune milk is lactoferrin.

59. A composition according to claim 58, wherein the lactoferrin is hydrolysed lactoferrin.

60. A composition according to any one of claims 54 to 56, wherein the component of colostrum and/or hyperimmune milk is one or more specific or cross-reactive antibodies to bacteria that colonise mucous epithelium.

61. A composition according to any one of claims 54 to 60, wherein the composition further includes an antibiotic.

62. A composition according to claim 61, wherein the antibiotic is amoxycillin.

63. A composition according to any one of claims 54 to 62, wherein the composition inhibits colonisation and/or infection of mucous epithelium by bacteria.

64. A composition according to claim 63, wherein the bacteria is a *Helicobacter* species.

65. A composition according to claim 64, wherein the *Helicobacter* species is *Helicobacter pylori*.